VALVTECHNOLOGIES

Case Study

Turbine Isolation and IsoTech® (PSG) Valves

Background: While problems with turbines are rare, routine maintenance and repair is necessary and required. It is essential that the turbine be turned with dry steam. If water gets into the steam (moisture carry-over) rapid impingement and erosion of the blades occurs. This can lead to imbalance and catastrophic failure. Any imbalance of a rotor can cause vibration requiring the turbine to be isolated and shut down immediately. In the event a turbine requires maintenance or immediate repair, it is essential to have high-quality, reliable valves for the turbine to be isolated. Failure to completely isolate a turbine can result in a complete or partial plant shutdown, causing safety concerns and increased maintenance costs.



Bidirectional, Zero-Leakage Operation

Background: The plant had two main steam isolation parallel slide gate valves (PSG's) installed in this application. Design pressure and temperature far the application is 2350 psig at 1050°F (162 bar at 566°C). They were experiencing severe leakage when valves were required to isolate. From initial plant start-up, the frequency af valve maintenance of up to twice per year per valve. The cost of \$40,000 per repair, was a particular concern far the plant. These repairs were strictly limited to disassembly, cleaning and visual inspection, grinding the seats and discs and reassembly. Well before the plant anticipated they were faced with having to replace valve seat rings and discs. The plant management decided to look at their alternatives far an upcoming outage.

Steam turbine damage by water induction is a costly economic, safety and reliability concern.

Solution: The plant installed two 12" 2500# C 12A ValvTechnologies' IsoTech® parallel slide gate valves during their spring 2014 outage. The Iso Tech® valve was the perfect remedy, as it utilizes a RiTech® chrome carbide hardcoating on the disc and seats, providing a more robust, stable sealing surface at elevated temperatures. The lsoTech® valve is a through-conduit, position-seated design, which protects the valve seats from the flow stream, resulting in a valve that provides zero-leakage and requires zero-maintenance. ValvTechnologies is so confident in its ability to withstand demands of steam isolation, that they back the valve with a four-year performance warranty.